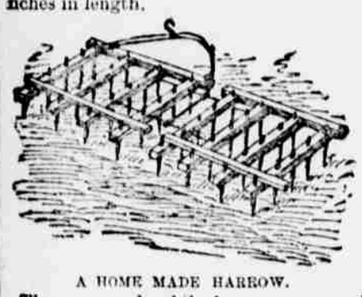
FARM AND GARDEN.

VARIOUS WAYS OF PRESERVING EGGS FOR WINTER.

A Filter Trap of Simple Construction for Cisterns—Recent Estimate of the Country's Wool Clip—A Beautiful Clematis—A Useful Harrow.

The harrow represented in the cut is a square one. The teeth are set twelve inches from center to center each way. There are four beams in each half and five teeth in each beam. These beams are four feet eight inches long, mortised into the front piece, which is three feet seven inches in length.



A HOME MADE HARROW.

The rear ends of the beam are secured by a piece of timber, two by one and a half inches, halved on to the beams and then bolted. The harrow is made of two and a half by two and a half inch scantling, using hard, durable wood. There is nothing particularly new about this harrow, except that it is larger than common, and the novel way of hitching to it by which it is kept steady. The teeth can be made to cut six inches or one inch apart. The manner of hitching is shown in the engraving. The draw bar is made of three-eighths by one and three-quarter iron, three feet four inches in length. The chain is attached to this by a hook at one end, the other being fastened to the arrow by a staple. The chain is about two feet long. The entire cost is about $12.

Preparing Trees for Planting.

Prepare trees for planting by cutting the tops back in proportion to the amount of injury done to the roots, which is generally from one-half to two-thirds of the entire top. On this pruning all shoots should be entirely cut away that are not needed for the formation of a perfect head, and the others cut back one-half to two-thirds of their length.

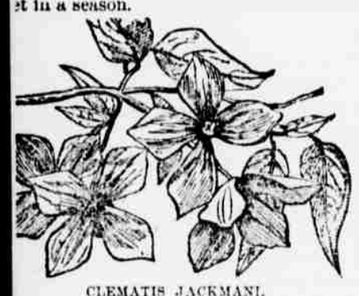
If the head is not formed high enough upon the trunk it may often be carried higher by cutting off all lateral shoots, saving the most central one for a leader, upon which will be formed the new head several inches higher than the first. All injured roots should have the ends cut smooth with a sharp knife, and with small fruits, like the grape, currant and gooseberry, it is often desirable to cut back some of the larger ones.

Restoring Rancid Butter.

You cannot restore rancid butter to a sweet, good article. It may be somewhat improved, however, by washing it first in sour milk and after that in cold water. Another plan is to beat up a quarter of a pound of good fresh lime in a pail of water and after allowing it to stand for an hour, until the impurities have settled, pour off the clear portion and wash the rancid butter in that.

A Hardy Climber.

Next to the rose, the clematis is doubtless the most popular flowering plant of the day. It is hardy, blooms during the entire season and embraces a great variety of beautiful colors. The clematis is a rapid climber, and, if carefully trained, attains to a height of from five to fifteen feet in a season.



CLEMATIS JACKMANI.

Our picture represents one of the most beautiful of the clematis family, and consequently one of the most beautiful of all our hardy climbers. Planted so as to cover the pillars of verandas, or trained on a trellis or stump or other object, it has no equal. It may also be planted in rocking or winding flower beds, but it will require pegging down. The large, velvet purple flowers of this variety are produced in the greatest profusion and remain on the plant a long time. This is a very satisfactory plant to cultivate, as it increases in size and beauty each year.

The Preservation of Eggs.

The season is again at hand when the several modes of packing down eggs for winter use are discussed. These various methods each have their warm advocates claiming superior merits. They all depend, however, largely upon the fact that the shells are porous, and if the pores be closed or protected from the recess of air, the contents will remain good a long time. Of late years protection of the contents of the egg by cold air has been practiced to some extent.

Large concerns that hold over eggs for market either preserve the eggs in a lime pickle or by the cold storage system. Farmers and others who preserve eggs in small quantities, as a rule practice lining and packing down in dry salt.

The lining system is inexpensive and but little trouble. Eggs kept by this process, however, while good for cooking purposes, such as making cake, puddings and the like, are not like fresh laid eggs when required for poaching or other uses where it is essential that the yolk remain unbroken.

To lime eggs, make a pickle of strictly pure stone lime, clean salt and pure water in the following proportions: Two quarts of salt, one bushel of lime and sixty gallons of water. The lime is carefully slacked with a part of the water, and the salt and remaining water afterward added, and when the mass is left to deposit the lime until the solution becomes clear. A common practice is to draw off the solution at this stage into a cask or vat in which it is designed to preserve the eggs. The eggs may be placed in the pickle by means of a wire basin punched full of holes. When the vat or cask is nearly full, cover over with a factory cloth and spread on two or three inches of the lime that settles in making the pickle, and see to it that the pickle is kept continually up over this cloth.

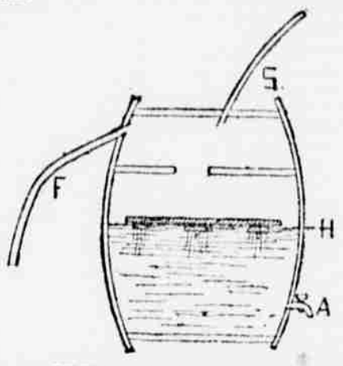
Advocates for packing eggs in dry salt are all the while increasing in number. The editor of The Rural New Yorker and editor of The Massachusetts Ploughman are amongst practical experimenters who report favorably on the plan of packing eggs in salt. Use small kegs, being sure that they are dry and sweet, put in a layer of dry, fine salt, place the eggs in the salt the big end down, close together, but not touching. Cover with salt and add another layer. Continue with alternate layers of eggs and salt until the keg is filled, being sure, of course, to finish with a heavy layer of salt. Head the kegs and lay on their sides in some spot where a cool, even temperature can be maintained. Every few days turn the keg. The salt prevents evaporation and the moving of the keg keeps the yolks of the eggs from adhering to the sides of the shell.

Stephen Beale advises where eggs are to be kept a long time that only infertile ones be packed down. His experiments make it appear that infertile eggs keep longer and in better condition than do fertile ones.

Our advice is cold storage for large concerns that handle eggs wholesale for market. For home use we would put down small packages of eggs in dry, fine salt, as above described. When large numbers are to be placed in one package, then we would lime them. By any mode the necessity of a cool, even temperature is emphasized.—The World.

Ingenious Trap for Cisterns.

The accompanying diagram represents a barrel which is placed between the eaves-spout and the entrance to the cistern. In the barrel is a float, H, and above the float about eight inches from the top is a diaphragm with a hole in the center. The head of the barrel is replaced, but several vent holes are bored. The diagram, S, represents the supply pipe from the roof, and F the outflow to the cistern. With every shower, the barrel being empty, or nearly so, the first flow of water brings most of the impurities (bird dung, leaves, dust and dirt) off the roof and they are caught in the barrel before it fills.



FILTER TRAP FOR CISTERNS.

When the water rises as high as the diaphragm, the float closes the hole, and the pure water then rises and flows into the cistern. After the rain the water in the barrel should be drawn off. It is useful for watering plants, washing flagging, wagons, etc. The faucet, A, should be a few inches above the bottom, so that the barrel will not get so dry as to leak in a dry time, and the affair should be kept under cover for the same cause, and painted.—American Agriculturist.

Estimate of the Wool Clip.

An estimate of the wool clip of this country, prepared by the Philadelphia Textile association, places the total unwashed wool at 208,595,126 pounds, and washed, 52,469,524; grand total, 261,469,650 pounds, which reduced to scoured wool, taking ordinary shrinkage, makes 116,136,685 pounds. Another table shows the estimated decrease and increase between 1884 and 1887, and between 1886 and 1887. For the former period there was a total decrease of 41,951,424 pounds, and an increase of 9,032,217 pounds, making a net decrease of 32,919,207 pounds. The total estimated decrease between 1886 and 1887 is 22,582,195 pounds, and an increase of 1,720,783 pounds; net decrease, 20,861,376 pounds. The increase occurs in Oregon, Colorado, Montana, Wyoming, Utah, Washington Territory, Nevada, Dakota and Idaho. All the other states and territories show a decrease. For a period between 1884 and 1887, Kansas, Minnesota and Nebraska show an increase, but these states are in the decrease column for the period 1886-7. Texas shows a decrease of 19,166,664 pounds for three years, and 12,244,704 pounds the past year. Ohio decreased 2,185,615 pounds in the three years, and 950,605 the past year.

Gas Tar for Beetles.

I have used during two years past, says a correspondent in Husbandman, water impregnated with gas tar for the purpose of destroying the Colorado beetle on my potato vines. It has proved more effective than Paris green, and has been used with equal effect upon my currant bushes. Two quarts of gas tar to a pail ful of water are the proportions used, and the vines or bushes are sprinkled by means of a watering pot.

Soot Water for Plants.

Soot is an excellent fertilizer for plants, especially pot plants. An easy manner of applying it is in water; tie the soot up in a bag and place it in hot water, working it around with the hands or a stick until the water has washed the soot from the bag; dilute with cold water. Soot water is excellent for roses, abutilons, pelargoriums and other flowering plants. When the pots are full of roots it appears to be especially effective.

Here and There.

The demand is increasing throughout the country for wind mills that will not only pump water, but furnish power for running various kinds of farm machinery.

If there is any better variety than the Langshans for winter layers, says Western Ploughman, we know nothing about them.

From the report on pork packing in the United States, the pack for 1886-7, it appears, amounted to 12,086,012 hogs against the pack of 11,203,507 hogs in 1885-6.

In California Angora goats are raised to some extent, and seem to be profitable, especially in mountain districts. Their fleece brings fair prices, and the young animals furnish a fair quality of meat.

Rye has withstood the unfavorable meteorological conditions better than wheat, and many farmers are cultivating this crop largely as a food for stock.

In the wheat crops of 1886 Dakota stands sixth on the list.

Bermuda is the chief reliance in the southern states for pasture. It is not hardy at the north.

Professor Cook, Lansing, Mich., kills cabbage worms with a mixture of one pound of buhoch and 100 gallons of water. Buhoch is for sale at most drug stores and many country stores keep it.

YOUNG FOLKS' COLUMN.

A CHEAP AND EFFECTIVE TELEPHONE FOR SHORT DISTANCES.

A Simple Sport That Dates its Origin Back to the Greeks—A Short Story About Princess Pocahontas and Her Little Son.

Every boy and girl old enough to have read the history of the United States is familiar with the story of Pocahontas, the dusky but beautiful daughter of Powhatan, king of a tribe of the Potomac Indians, in Virginia, as long ago as 1600. They know how she saved the life of Capt. John Smith when he was captured and brought a prisoner before her father, the king, and when the red men would, but for her brave intercession, have put him to death. They also remember how a few years later Pocahontas was married in the little church of Jamestown to a young Englishman named John Rolfe, who in the year 1616 took her to England with him, where not only his relatives but the queen (Anne of Denmark) treated her with the respect and attention due to a young princess.

POCAHONTAS AND HER SON THOMAS ROLFE.

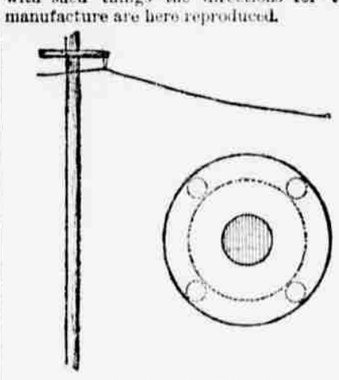
One son was born to Pocahontas and John Rolfe; he was named after a mutual friend, Sir Thomas Dale, and it is this little lad's picture that appears here with that of his mother. This picture is a copy of a portrait now in the possession of descendants of John Rolfe in England and made originally for Wide Awake. The curious earrings worn by Pocahontas in this portrait are the kind that were in fashion more than 200 years ago among the kings and princesses of the Indian tribes. These earrings are still in existence, being cherished as momentos of this beautiful Indian princess who saved the life of one Englishman, and forsook her own people to follow the fortunes of this white man to whom she afterwards gave her heart and hand in wedlock.

Duck and Drake.

"Duck and Drake" is a very simple sport, but a very old one. The Greeks used to play it with oyster shells, and called it "Epostra Kismos." It consists in flinging a piece of flat tile, or stone, along the surface of a pond, in such a way that it skims over the water, touching it several times, and rebounding again, until it finally sinks. He whose stone, or tile, makes the greater number of leaps, before it disappears beneath the water, is the winner. As the sport consists in throwing away stones, so it is often said of a man who throws away his money, as if it had been oyster shells or stones, that "he is making ducks and drakes of it." A "duck" is a stone that has rebounded twice from the water; a "drake," one that has jumped up three times.

A Short Distance Telephone.

The telephone shown in the accompanying cut is described by a correspondent in Country Gentleman, who has successfully worked one like it at a distance of about one-third of a mile. As the transmitters are easily made and young folks are fond of experimenting with such things the directions for their manufacture are here reproduced.



A SIMPLE TELEPHONE.

Cut with a circle saw from an inch board two circular rims, twelve inches in diameter, the open space in the center being seven inches in diameter, one of them for each end of the line. Then glue on one side of the rim four thicknesses of heavy manilla paper, drawing them as tightly as possible. (It would also be well to drive in a few large head carpet tacks about an inch apart.) On the other side of the rim glue on two thicknesses of paper, having in the center an opening three inches in diameter.

The wire to be used is copper, about the thickness of a knitting needle. To fasten the wire to the poles, nail a short crosspiece to the top, from which to tie the wire with a heavy cotton cord, leaving it loose enough so that the wire will not touch the wood. The opening in the side of the building should also be large enough not to interfere with the wire. Then make an opening in the center of the four thicknesses of paper barely large enough to receive the wire. Draw the wire tight and give it a few twists around a nail laid flatwise on the inner side of the paper. Between the back of the transmitter and the side of the room place near the edge four small blocks or spools. To call, tap on the nail with any small piece of iron. By this arrangement one can communicate from his house to that of a near neighbor with but small expense.

Items About the Magnet.

Fire irons which have rested in one position in a room during the summer months are often highly magnetic.

Iron bars standing erect, such as the gratings of a prison cell, or the iron railings before houses, are often magnetic.

The uppermost of the iron tire round a carriage wheel attracts the north end of a magnet, and has hence south polarity, while the lower end attracting the south end of the same, has north polarity.

Magnetism may be made to pass through a deal board; to exhibit which, lay a needle on the smooth part above and run a magnet along the under side, and the needle will be found to follow the course of the magnet. A magnet dipped into boiling water loses part of its magnetism, which, however, returns upon its cooling.

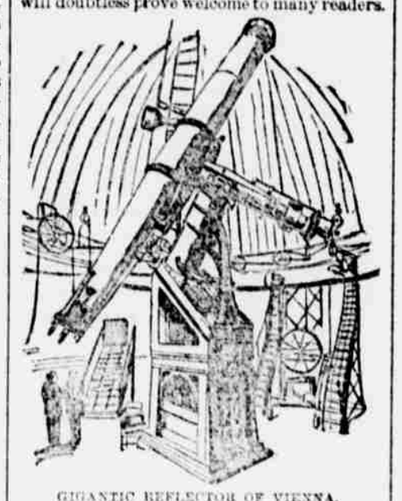
A sudden blow given to a magnet often destroys its magnetic power.

SCIENCE AND PROGRESS.

ELEVATOR SHAFTS MADE FIRE-PROOF WITH TIN LININGS.

Suggestions About Preventing the Deadly Pest of Sewer Gas by the Artificial Ventilation of Sewers—The Immense Telescopes Employed by Astronomers.

The successful application of photography to the representation of the starry heavens has awakened universal interest in the work of astronomers, and an illustration of one of these immense telescopes which enable astronomers to explore the vast distances of the universe from which light reaches us will doubtless prove welcome to many readers.



GIGANTIC REFLECTOR OF VIENNA.

Until lately the gigantic telescope in the Vienna observatory was the largest in the world, for it surpassed in size even the Washington refractor, in comparison with which all other telescopes had seemed like dwarfs, but it did not enjoy this reputation long, for the construction of the Vienna telescope seemed to call forth a universal competition for the possession of the largest instrument, and several observatories ordered telescopes of dimensions equal to or larger than the one in Vienna. The diameter of the lens in the Vienna instrument is 27 inches, of that in the telescope at Pulkowa (near St. Petersburg) 30 inches, and of the lens in the refractor in the Lick observatory, California, 36 inches.

Illustrite Zeitung, from which the accompanying cut was reproduced, furnishes the following figures of the proportions of the Vienna telescope:

The length of the tube is about 36 feet, and, with its movable axis and counterweights, it weighs about 10,000 lbs. The entire instrument, with its cast iron base, weighs more than 36,000 lbs.

This telescope was constructed by Howard Grubb of Dublin, and cost in round numbers $33,600. The entire instrument, including the protecting dome, etc., and exclusive of the foundation of masonry, cost about $84,000.

Fire Proof Elevator Shafts.

It is quite possible to make elevator shafts fire proof, says Building, which journal makes the following suggestions: The interior of these shafts should be lined with corrugated iron, or, what is better, with bright tin securely fastened to the woodwork. The best fire proof doors that are made are constructed of wood, upon which sheets of tin are placed in such a manner that the flames cannot penetrate at any point. It has been repeatedly demonstrated that doors of this kind will resist heat much longer than the ordinary iron doors or doors of any other material. If elevator shafts were constructed in this way, with the openings at the different landings so made as to close tightly, thereby hermetically sealing the shaft, this would then become a great flue to carry away the smoke and flames generated in the building. If at the top of the shaft a glass skylight was placed, a free exit for the flames would be afforded, for the heat would very soon break the glass and make the opening complete.

Artificial Ventilation of Sewers.

A member of the board of sewer commissioners of Detroit, after ten years of careful observation, advocates a furnance and chimney of strong draught at the mouth of the main sewer, to create a constant suction of the gases away from the houses and into a consuming chamber in the furnace. He believes that the deadly pest of sewer gas will never be got rid of but by some system of unvarying artificial ventilation of sewers. The method he proposes, says one scientist, could be more effectively operated by a comparatively small gas flame with proper flue building than with a costly coal fire, provided the gases can be otherwise neutralized or disposed of.

The Silent Night Clock.

The silent night clock, which was introduced to the public some months ago, has already been subjected to improvement. A little spirit lamp is now attached to the clock behind the dial; formerly the clock was intended to be put over the gas jet. The dial is of opal glass, with variously colored porcelain figures. The advantage of the clock is that the light is confined by a peculiar reflector at the back of a transparent dial, so that the time is distinctly seen while the room is in darkness.

Resuscitation by Galvanism.

The celebrated physiologist, Dr. Brown-Sequard, says he has discovered that the moment the skin of the neck is cut all sensibility disappears, and that the best means of resuscitating persons asphyxiated by smoke, coal gas or water, is to apply galvanism to the skin of the neck—a method he has successfully employed.

The Lowest Human Temperature.

The Lancet reports the case of a woman dying from myxedema whose temperature ranged from 66 degs. F. to 76 degs. F., the normal temperature being 98.5 degs. F. The pulsations of this patient's heart were 36, and her respirations 12 to the minute. The temperature is said to be the lowest human temperature on record.

A Light Production of Quicksilver.

The lightest production of quicksilver in the United States in ten years, according to a recent estimate, was that of last year, being only 27,756 flasks. The increased imports of nearly 8,000 flasks from England to the United States include the large transit trade of that article to the Mexican mines.

Birds in North America.

Out of some 10,000 species of birds recognized by ornithologists there are 850 species and sub-species which make their home in North America. There are also eighty-two others which find their way to this continent as stragglers from other countries.

Silver in Volcanic Ashes.

J. W. Mallett claims to have found traces of silver in the ashes from an eruption of the volcano Cotopaxi, to the extent of two-fifths of an ounce to the ton. Lead, which was said to be present in the ashes of a previous eruption, was not noticed.